

# MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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## *Epidemiologic Notes and Reports*

### **Crack Cocaine Use Among Persons with Tuberculosis — Contra Costa County, California, 1987–1990**

From January 1, 1987, through June 30, 1990, 44 cases of tuberculosis (TB) occurred among residents of Contra Costa County, California, who were known to use crack cocaine. To investigate a possible association between crack cocaine use and TB, local health officials conducted a retrospective study of TB cases among residents of Contra Costa County.

During the 42-month period, 354 cases were reported to the Contra Costa County TB Registry. Seventy-one (20%) of these cases were excluded because they did not meet the CDC surveillance case definition for TB or were diagnosed before 1987 or because the patient's medical record could not be located. The charts of the other 283 cases were reviewed for demographic, clinical, and laboratory data; results of contact investigations; and a history of alcohol or other drug dependency.

Of the 283 cases, 44 (16%) occurred among persons who reported using crack cocaine (in 1987, four [8%] of 48; 1988, 19 [19%] of 99; 1989, 20 [20%] of 101; and January–June 1990, one [3%] of 35). Fifteen of the 44 cases occurred among crack users who frequented one or more of three specific crack houses (i.e., a setting where crack cocaine is sold and/or used) in the county. This link was discovered by standard contact investigation for five cases and retrospectively established in the other 10 through additional history-taking.

The characteristics of the 44 persons who reported using crack were compared with those of the 239 persons who were not known to use crack (nonusers) (Table 1). Crack users were younger than nonusers (mean age: 34.4 years vs. 48.5 years; Kruskal-Wallis [i.e., test for differences between age distributions]  $H=21.0$ ;  $p \leq 0.001$ ); more likely than nonusers to be black (89% vs. 22%; odds ratio [OR] = 40.6; 95% confidence interval [CI] = 7.3–100.2); and were more likely to reside in the western region of the county, which includes an economically depressed, inner-city area.

Acquired immunodeficiency syndrome (AIDS) had been diagnosed in seven (16%) crack users with TB (all current or past injectable-drug users [IDUs]), compared with

*Tuberculosis — Continued*

12 (5%) nonusers (OR = 3.5; CI = 1.4–9.6). In addition, six persons who used crack and one nonuser were known to be seropositive for human immunodeficiency virus (HIV) but had not been diagnosed with AIDS. Thus, of the 33 crack users for whom HIV serostatus was known, 13 (39%) were HIV seropositive.

Of 36 crack users with culture-proven pulmonary TB and for whom sputum smear and radiographic findings were known, 26 (72%) had positive acid-fast bacillus smears. Chest radiographs revealed cavitory disease in 13 (36%) of the 36 persons.

Current or past use of other drugs was common among the 44 crack users: 21 used crack and alcohol; 15 used crack, alcohol, and injectable drugs; five used crack only; and three used crack and injectable drugs.

**TABLE 1. Characteristics of crack users and nonusers with tuberculosis — Contra Costa County, California, January 1987–June 1990**

Characteristic	No. cases (%)		Odds ratio (95% CI)*
	Crack users (n = 44)	Nonusers (n = 239)	
<b>Sex</b>			
Male	29 (66)	145 (61)	1.3 ( 0.6–2.4)
Female	15 (34)	94 (39)	1.0
<b>Race/Ethnicity</b>			
White, non-Hispanic	5 (11)	70 (29)	40.6 ( 7.3–100.2) <sup>†</sup>
Black	39 (89)	52 (22)	
Hispanic	0 —	33 (14)	
Asian	0 —	75 (31)	
Other/Unknown	0 —	9 ( 4)	
<b>AIDS status</b>			
AIDS	7 (16)	12 ( 5)	3.5 ( 1.4–9.6)
No AIDS	37 (84)	227 (95)	1.0
<b>Site of disease</b>			
Pulmonary only	35 (80)	165 (69)	1.7 ( 0.8–3.6)
Extrapulmonary with or without pulmonary	9 (20)	74 (31)	1.0
<b>Bacteriologic findings, culture-proven pulmonary cases<sup>‡</sup></b>	(n = 36)	(n = 145)	
Smear positive/Culture positive	26 (72)	82 (57)	2.0 ( 0.9–5.0)
Smear negative/Culture positive	10 (28)	63 (43)	1.0
<b>Radiographic findings, culture-proven pulmonary cases<sup>‡</sup></b>	(n = 36)	(n = 145)	
Cavitory	13 (36)	34 (23)	1.9 ( 0.8–4.3)
Noncavitory	23 (64)	111 (77)	1.0

\*Confidence interval.

<sup>†</sup>Odds ratio for crack use by race, black vs. all other racial/ethnic groups combined, stratified by region of county.

<sup>‡</sup>Includes patients with both pulmonary and extrapulmonary disease for whom smear and radiographic results were known.

*Tuberculosis — Continued*

Treatment outcomes for TB were characterized for 42 of the 44 crack users (two patients refused treatment and were lost to follow-up). For the 42, the initially prescribed regimen included isoniazid and rifampin, with pyrazinamide for the first 2 months only. Twenty-three were placed on twice-weekly directly observed therapy at some time during the course of treatment, generally after an initial phase of 2 weeks of daily medication in a hospital; 13 (57%) of these patients completed treatment. Of the 19 not placed on directly observed therapy, four (21%) completed therapy (OR=4.4; 95% CI=1.0–23.1). Ten of the 42 patients are still under treatment. Six patients, all HIV positive, died while on treatment; none of these died from TB. Nine patients did not complete therapy and were lost to follow-up.

Intradermal Mantoux tuberculin skin tests were completed for 318 contacts of crack users; of these, 120 (38%) were positive (induration  $\geq 5$  mm), compared with 303 (32%) of 960 contacts of nonusers (OR=1.3; 95% CI=1.0–1.7). Twenty-three secondary TB cases, including five cases among children, were identified among contacts of crack users, compared with 21 secondary cases among contacts of nonusers.

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**Editorial Note:** This report documents the first outbreak of TB recognized among users of crack cocaine. This outbreak has at least two potential explanations. First, crack use is associated with an increased risk for HIV infection, probably because of associations with use of injectable drugs and/or increased sexual activity (1,2). In Contra Costa County, a high proportion of crack users had a history of injectable-drug use—a risk factor for HIV infection (3) and possibly for TB (4). HIV infection substantially increases the risk for active TB, either from reactivation of latent TB infection or from rapid progression of primary infection (5,6). Second, the immediate environment in which crack cocaine was used may have facilitated transmission of TB. Crack is often used in houses or apartments in which ventilation is deliberately limited to minimize detection; such poorly ventilated settings may facilitate airborne transmission of TB. In Contra Costa County, 15 of the TB cases among crack users were epidemiologically linked to three crack houses. Other cases of TB may have been linked but could not be confirmed because of the patients' unwillingness to provide accurate information to investigators (e.g., refusing to acknowledge their crack use or to identify their contacts and threatening health-care personnel).

Crack use among persons with TB in Contra Costa County occurred predominantly among black males in an economically depressed area. Nationally, TB case rates are high among black males and have recently been increasing (CDC, unpublished data). Although the persistently higher case rate among blacks and other racial/ethnic minorities is associated with multiple factors (including socioeconomic factors [7]), the specific contribution of substance abuse and HIV infection to these increases is unknown.

The potential role of crack use as a risk factor for TB could not be assessed in Contra Costa County because of methodologic limitations (e.g., missing data and

*Tuberculosis — Continued*

confounding factors, such as HIV infection and injectable-drug use). However, crack use has been associated with impairment of pulmonary function (8,9) and with coughing, which could facilitate transmission of TB by persons with active pulmonary disease. In addition, because of delays in diagnosis and treatment, crack users with TB might remain infectious longer than nonusers (users may be less likely to seek medical care). A high proportion of crack users in Contra Costa County had advanced disease (as indicated by positive smears and cavitary lesions on chest radiographs), suggesting they were more infectious and may have delayed in seeking medical care.

Crack use substantially hampered TB-control efforts: noncompliance with medical recommendations for diagnosis and treatment resulted in poor treatment outcomes and increased costs of treatment. In addition, lack of cooperation with health department personnel contributed to the delay in recognizing the TB outbreak and initiating control measures. However, a reduction in the number of cases among crack users during January–June 1990 suggests that these control measures, although incompletely applied after a considerable delay, may have limited the outbreak.

In Contra Costa County, because crack use and other chemical dependency may not have been acknowledged by the patient or recorded in the chart, some persons classified as “nonusers” may have used crack. Health-care providers should screen all TB patients for risk factors for HIV infection and take a thorough drug-use history. In addition, crack users, IDUs, and other persons with risk factors for HIV infection should be screened for TB and offered HIV counseling and testing. Crack users who present with symptoms suggestive of TB should have chest radiographs performed promptly; these should be interpreted with a high index of suspicion for TB. When TB is diagnosed in such patients, the use of directly observed therapy and other methods for enhancing compliance with therapy (10) should be aggressively applied. Users of crack and other drugs should be strongly encouraged to enter available drug-treatment programs.

CDC urges all health-care providers to monitor for the occurrence of TB among users of crack cocaine, IDUs, alcohol-dependent persons, and persons with known or suspected HIV infection.

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**Current Trends****Acquired Immunodeficiency Syndrome —  
Dade County, Florida, 1981–1990**

In the United States, the impact of the epidemic of acquired immunodeficiency syndrome (AIDS) has been most substantial in urban areas. In addition, AIDS has differentially affected racial/ethnic minority groups. This report characterizes the epidemiology of AIDS through 1990 in Dade County (which includes incorporated Miami), Florida (1990 population: 1.937 million), an urban area with a diversity of racial/ethnic groups and cultures. The findings in this report are based on surveillance data from CDC's AIDS Public Information Data Set (1,2) and from the Florida Department of Health and Rehabilitative Services' (HRS) AIDS Program (3).

Through 1990, Dade County ranked seventh among U.S. metropolitan areas in cumulative total AIDS cases (4223) and in cases among adults/adolescents (i.e., persons  $\geq 13$  years of age) (4060). In 1990, Dade County ranked fifth in annual incidence rate (54.7 cases per 100,000 population). The distribution of AIDS cases in Dade County by exposure category differed markedly from that of the nation (Figure 1). Dade County ranked highly in all exposure categories.

**Heterosexual Transmission**

Through 1990, Dade County ranked second among U.S. metropolitan areas, with 706 cumulative cases attributed to heterosexual contact (HC) (Table 1). Dade County ranked second nationally in the *proportion* of HC cases (706/4060 [17%]) (JM Shultz, RS Tomchik, S Kumar, J Malecki, JR Simmons, unpublished data, 1991). Dade County accounted for 522 (26%) of all HC cases in the United States among persons born in Pattern II countries\*; these 522 cases represented 74% of HC cases and 13% of cases among adults/adolescents in Dade County. The 184 HC cases among persons *not* born in Pattern II countries accounted for 5% of cases among adults/adolescents, a proportion comparable to national data (4%). The male-to-female ratio was 2.7:1 for Pattern II HC cases and 0.6:1 for non-Pattern II HC cases (5).

In addition to cases attributed to HC, cases also occurred among heterosexuals who are injectable-drug users (IDUs) and among persons currently identified as having no identified risk (6). The combined total of 706 HC cases and 771 cases among heterosexual IDUs accounted for 36% of Dade County's adult/adolescent cases. Heterosexual transmission risks were amplified by the high rates of sexually transmitted diseases in Dade County (7,8).

**AIDS Cases Among Women and Children**

Through 1990, Dade County ranked third among U.S. metropolitan areas in cumulative AIDS cases among women. The high proportion of cases among women was directly related to the behavioral epidemiology of risk (Table 2). For the

\*According to the World Health Organization's classification of the global epidemiology of AIDS, Pattern II transmission occurs in several Caribbean countries and areas of sub-Saharan Africa; in these countries, most of the reported cases occur among heterosexuals and the male-to-female ratio approaches 1:1 (4).

*AIDS — Continued*

628 adult/adolescent women, three exposure categories were prominent: IDU (255 [41% of cases among women]), Pattern II HC cases (141 [22%]), and non-Pattern II HC cases (112 [18%]). Of the 628 cases, 528 (84%) occurred among black women, of whom 141 (27%) were born in Pattern II countries (Table 2).

Dade County ranked second among U.S. metropolitan areas in pediatric (i.e., children <13 years of age) AIDS cases (163 cases); 150 (92%) of these resulted from perinatal (mother-to-child) transmission. Black children accounted for the majority of pediatric AIDS cases (142/163 [87%]).

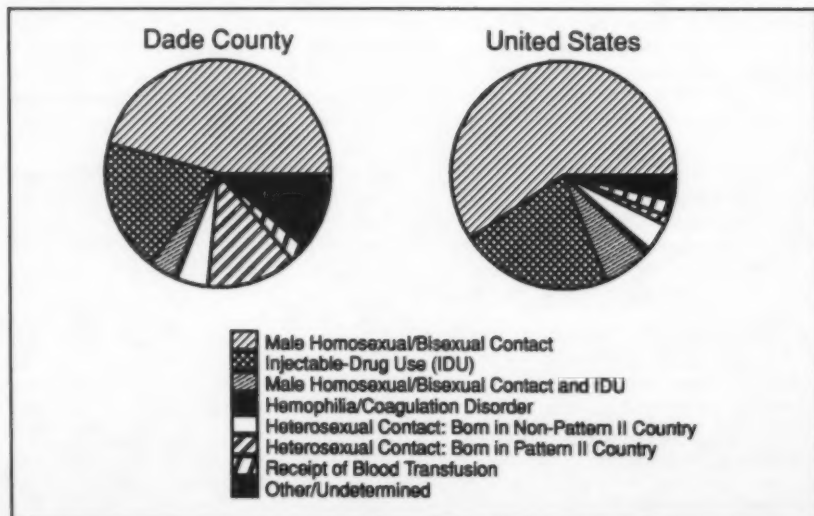
**Racial/Ethnic Characteristics**

Through 1990, the cumulative incidence rate for AIDS in Dade County was lowest for Hispanics and highest for blacks (Table 3). Annual incidence rates were highest for blacks (Figure 2). For non-Hispanic whites and Hispanics, more than three fourths of persons with AIDS were classified as having male homosexual/bisexual contact as a primary risk behavior. In contrast, blacks accounted for most of the HC cases (646/706 [92%]) and cases among male heterosexual and female IDUs (604/770 [78%]).

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**Editorial Note:** In Dade County, surveillance findings suggest that the AIDS epidemic is a composite of behaviorally, culturally, and geographically distinct subepidemics. Consequently, in this setting, prevention programs must target risk behaviors that also reflect prevalent cultures. For example, in Dade County, efforts to address homosexual/bisexual risk behaviors may be focused on subpopulations of white and

**FIGURE 1. Reported AIDS cases among adults, by exposure category — Dade County, Florida, and United States, 1981–1990**





## AIDS — Continued

Hispanic men; for IDUs and their sexual contacts, U.S.-born black men and women; and for cases associated with heterosexual contact with bisexual men and with persons from Pattern II countries, Caribbean-born black men and women. Each of these groups may be further defined in terms of specific residential neighborhoods, language, immigration history, cultural heritage, venues for high-risk activities, and social networks.

The principal public-sector efforts to curb the AIDS epidemic have included collaboration between HRS and the University of Miami. During the 1980s, HRS staff at the district and state levels conducted AIDS case surveillance, sentinel surveillance

**TABLE 1. Cumulative AIDS cases, by exposure category — Dade County, Florida, and United States, 1981–1990**

Exposure category	AIDS cases				Dade County rank among U.S. metropolitan areas
	Total U.S.		Dade County		
	No.	(%)	No.	(%)	
<b>Adult/Adolescent</b>					
Male homosexual/bisexual contact	94,126	( 58.4)	1,858	( 43.9)	11
Injectable-drug use (IDU)	34,398	( 21.4)	770	( 18.2)	4
Male homosexual/bisexual contact and IDU	10,557	( 6.6)	153	( 3.6)	13
Hemophilia/Coagulation disorder	1,386	( 0.9)	15	( 0.4)	16
Heterosexual contact	8,440	( 5.2)	706	( 16.7)	2
<i>Born in Pattern II country</i>	2,036	( 1.3)	522	( 12.4)	2
<i>Born in non-Pattern II country</i>	6,404	( 4.0)	184	( 4.3)	4
Receipt of blood transfusion	3,684	( 2.3)	104	( 2.5)	5
Other/Undetermined	5,696	( 3.5)	454	( 10.8)	2
<b>Subtotal</b>	<b>158,287</b>	<b>( 98.3)</b>	<b>4,060</b>	<b>( 96.1)</b>	<b>7</b>
<b>Pediatric</b>	<b>2,786</b>	<b>( 1.7)</b>	<b>163</b>	<b>( 3.9)</b>	<b>2</b>
<b>Total</b>	<b>161,073</b>	<b>(100.0)</b>	<b>4,223</b>	<b>(100.0)</b>	<b>7</b>

**TABLE 2. Cumulative AIDS cases, by exposure category, race/ethnicity, and sex — Dade County, Florida, 1981–1990**

Exposure category	Race/Ethnicity				Sex		
	White non-Hispanic	Black non-Hispanic	Other/Hispanic	Unknown	Male	Female	Total
<b>Adult/Adolescent</b>							
Male homosexual/bisexual contact	762	231	860	5	1858	0	1858
Injectable-drug use (IDU)	81	604	82	3	515	255	770
Male homosexual/bisexual contact and IDU	57	59	37	0	153	0	153
Hemophilia/Coagulation disorder	10	2	3	0	14	1	15
Heterosexual contact	27	646	31	2	453	253	706
<i>Born in Pattern II country</i>	3	516	1	2	381	141	522
<i>Born in Non-Pattern II country</i>	24	130	30	0	72	112	184
Receipt of blood transfusion	32	43	28	1	64	40	104
Other/Undetermined	79	231	141	3	375	79	454
<b>Subtotal</b>	<b>1048</b>	<b>1816</b>	<b>1182</b>	<b>14</b>	<b>3432</b>	<b>628</b>	<b>4060</b>
<b>Pediatric</b>	<b>4</b>	<b>142</b>	<b>17</b>	<b>0</b>	<b>74</b>	<b>89</b>	<b>163</b>
<b>Total</b>	<b>1052</b>	<b>1958</b>	<b>1199</b>	<b>14</b>	<b>3506</b>	<b>717</b>	<b>4223</b>

## AIDS — Continued

of human immunodeficiency virus (HIV) infection, and HIV-antibody testing and counseling and provided prevention services. Clinicians and researchers at the University of Miami School of Medicine conducted large-scale clinical trials of antiviral medications and special studies of high-risk populations, including IDUs, female prostitutes, and heterosexual partners of HIV-infected persons. Innovative research designs and strategies were developed to recruit IDUs, crack cocaine users, and sex partners of IDUs into intervention programs aimed at reducing high-risk behaviors associated with transmission of HIV (9–11). Research on school-based HIV/AIDS education is under way, and additional studies are planned.

Sentinel surveillance data for Dade County indicate that current and increasing HIV infection rates will sustain a high incidence rate of AIDS cases throughout the 1990s (12). Consequently, case-management of persons with currently diagnosed AIDS and HIV infection, as well as prevention and intervention efforts, need to be intensified.

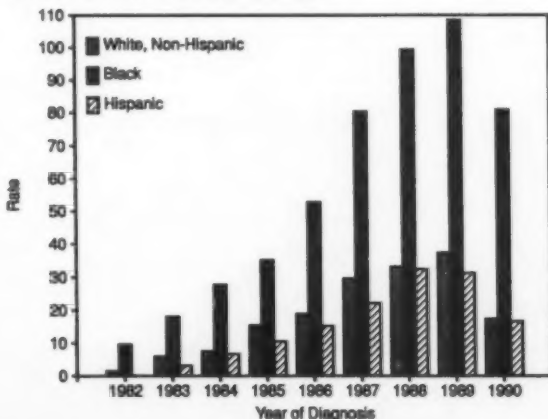
**TABLE 3. Cumulative AIDS cases, by sex and race/ethnicity, and male-to-female ratios, estimated populations, and cumulative incidence rates, by race/ethnicity — Dade County, Florida, 1981–1990**

Race/Ethnicity	No. cases		Total no. cases	Ratio	Estimated population	Cumulative incidence rate*
	Male	Female				
White, non-Hispanic	996	56	1,052	17.8:1	586,000	179.5
Black, non-Hispanic	1,351	607	1,958	2.2:1	398,000	492.0
Hispanic	1,148	51	1,199	22.5:1	953,000	125.8
Other/Unknown	11	3	14	3.7:1	NA†	NA
<b>Total</b>	<b>3,506</b>	<b>717</b>	<b>4,223</b>	<b>4.9:1</b>	<b>1,937,000</b>	<b>218.0</b>

\*Per 100,000 population.

†Not available.

**FIGURE 2. Annual incidence rates\* for AIDS, by race/ethnicity of patient and date of diagnosis — Dade County, Florida, 1982–1990**



\*Per 100,000 population.



*AIDS - Continued*

This process, based on links between HRS and university-based researchers, will include expansion of community-focused epidemiologic research involving the University of Miami's Department of Epidemiology and Public Health and the HRS Dade County Public Health Unit.

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### **Mortality Patterns — United States, 1988**

In 1988, 2,167,999 deaths were registered in the United States—a total of 44,676 more deaths than in 1987 and the largest annual final number ever recorded (1). As in previous years, nearly three fourths of deaths were caused by the first four leading causes of death—heart disease, cancer, stroke, and unintentional injury. This report summarizes mortality data compiled by CDC's National Center for Health Statistics (NCHS) for 1988 (1) and compares patterns with 1987.

National death statistics are based on information contained on death certificates that have been filed in state vital statistics offices as required by state law and compiled by NCHS into a national data base for monitoring the nation's health and for research. In this report, cause-of-death statistics are based on the underlying cause of death.\* The causes of death are recorded on the death certificate by the attending physician, medical examiner, or coroner in a manner specified by the World Health Organization (WHO) and endorsed by CDC.

\*Defined by the World Health Organization's (WHO) *International Classification of Diseases, Ninth Revision* (ICD-9) as "(a) the disease or injury which initiated the train of morbid events leading directly to death, or (b) the circumstances of the accidents or violence which produced the fatal injury."

## Mortality — Continued

Despite the increase in the total number of deaths in 1988, the overall age-adjusted death rate<sup>†</sup> remained the same as the record low of 535.5 per 100,000 population in 1987. For six of the 15 leading causes of death, rates decreased from 1987 to 1988 (Table 1)<sup>‡</sup>; the rate for heart disease (*International Classification of Diseases, Ninth Revision* [ICD-9] rubrics 390–398, 402 and 404–429), the greatest contributor to U.S. mortality, declined by 1.9%, and the rate for cancer (ICD-9 rubrics 140–208) declined for the third consecutive year. Mortality from atherosclerosis (ICD-9 rubric 440) decreased by 5.6%, the largest decline among the 15 leading causes of death.

Compared with 1987, age-adjusted death rates declined for whites<sup>§</sup> (from 511.1 to 509.8) but increased for blacks (from 778.6 to 788.8). Major causes of death that

<sup>†</sup>Age-adjusted to the 1940 U.S. population. Age-adjusted death rates indicate changes in the risk for death more effectively than crude death rates and are better indicators for comparisons of mortality by race or sex.

<sup>‡</sup>"Certain conditions originating in the perinatal period" is not included as one of the causes of death for which the rate has decreased because this occurs mainly among infants aged <1 year and is based on an infant mortality rate.

<sup>§</sup>Hispanics are included in totals for both white persons and black persons.

**TABLE 1. Age-adjusted death rates\* for 1988 and percent changes in age-adjusted death rates for the 15 leading causes of death from 1987 to 1988 and 1979 to 1988 — United States**

Rank <sup>†</sup>	Cause of death (ICD-9)	1988 Age-adjusted death rate	% Change	
			1987 to 1988	1979 to 1988
1	Diseases of heart (390–398, 402, 404–429)	166.3	-1.9	-16.6
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140–208)	132.7	-0.2	1.5
3	Cerebrovascular diseases (430–438)	29.7	-2.0	-28.6
4	Accidents and adverse effects <sup>‡</sup> (E800–E949)	35.0	1.2	-18.4
	Motor vehicle accidents (E810–E825)	19.7	1.0	-15.1
	All other accidents and adverse effects (E800–E807, E826–E949)	15.3	0.7	-21.9
5	Chronic obstructive pulmonary diseases and allied conditions (490–496)	19.4	3.7	32.9
6	Pneumonia and influenza (480–487)	14.2	8.4	26.8
7	Diabetes mellitus (250)	10.1	3.1	3.1
8	Suicide (E950–E959)	11.4	-2.6	-2.6
9	Chronic liver disease and cirrhosis (571)	9.0	-1.1	-25.0
10	Nephritis, nephrotic syndrome, and nephrosis (580–589)	4.8	0	11.6
11	Atherosclerosis (440)	3.4	-5.6	-40.4
12	Homicide (E960–E978)	9.0	4.7	-11.8
13	Septicemia (038)	4.6	2.2	100.0
14	Certain conditions originating in the perinatal period <sup>‡</sup> (760–779)	—	-2.8	-30.9
15	Human immunodeficiency virus infection (042–044)	6.6	20.0	—
	<b>All causes</b>	<b>535.5</b>	<b>0</b>	<b>-7.2</b>

\*Per 100,000 population, age-adjusted to the 1940 U.S. population.

<sup>†</sup>Based on number of deaths.

<sup>‡</sup>When a death occurs under "accidental circumstances," the preferred term within the public health community is "unintentional injury."

<sup>§</sup>Based on infant mortality rates.

*Mortality — Continued*

contributed to the differential in mortality between blacks and whites from 1987 to 1988 included heart disease, human immunodeficiency virus (HIV) infection (ICD-9 rubrics 042–044), and homicide (ICD-9 rubrics E960–E978). For most of the leading causes, age-adjusted death rates were higher for blacks than for whites. The largest difference in rates was for homicide: the rate for blacks was 6.4 times that for whites (Table 2). Death rates were lower for blacks for two of the 15 leading causes of death—chronic obstructive pulmonary diseases and allied conditions (ICD-9 rubrics 490–496) and suicide (ICD-9 rubrics 950–959).

As in the past, in 1988, age-adjusted death rates for men were higher than those for women (Table 2). However, when compared with 1987, age-adjusted death rates declined for males (from 698.6 to 696.7) but increased for females (from 403.3 to 404.4). The narrowing differential in gender-specific mortality reflected mortality associated with cancer and heart disease. The greatest gender differential in mortality was associated with HIV infection, for which the rate for males was 8.6 times that for females. Rates for suicide and for homicide were 4.0 and 3.3 times, respectively, higher for males than for females, and the rate for unintentional injuries (ICD-9

(Continued on page 501)

**TABLE 2. Ratio of age-adjusted death rates\* for the 15 leading causes of death, by sex and race — United States, 1988**

Rank†	Cause of death (ICD-9)	Male-to-female	Black-to-white‡
1	Diseases of heart (390–398, 402, 404–429)	1.9	1.4
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140–208)	1.5	1.3
3	Cerebrovascular diseases (430–438)	1.2	1.9
4	Accidents and adverse effects* (E800–E949)	2.7	1.3
	Motor vehicle accidents (E810–E825)	2.5	0.9
	All other accidents and adverse effects (E800–E807, E826–E949)	3.0	1.8
5	Chronic obstructive pulmonary diseases and allied conditions (490–496)	2.0	0.8
6	Pneumonia and influenza (480–487)	1.7	1.4
7	Diabetes mellitus (250)	1.1	2.4
8	Suicide (E950–E959)	4.0	0.6
9	Chronic liver disease and cirrhosis (571)	2.3	1.7
10	Nephritis, nephrotic syndrome, and nephrosis (580–589)	1.5	2.8
11	Atherosclerosis (440)	1.3	1.1
12	Homicide (E960–E978)	3.3	6.4
13	Septicemia (038)	1.3	2.6
14	Certain conditions originating in the perinatal period** (760–779)	1.3	2.7
15	Human immunodeficiency virus infection (042–044)	8.6	3.4
	<b>All causes</b>	<b>1.7</b>	<b>1.6</b>

\*Per 100,000 population, age-adjusted to the 1940 U.S. population.

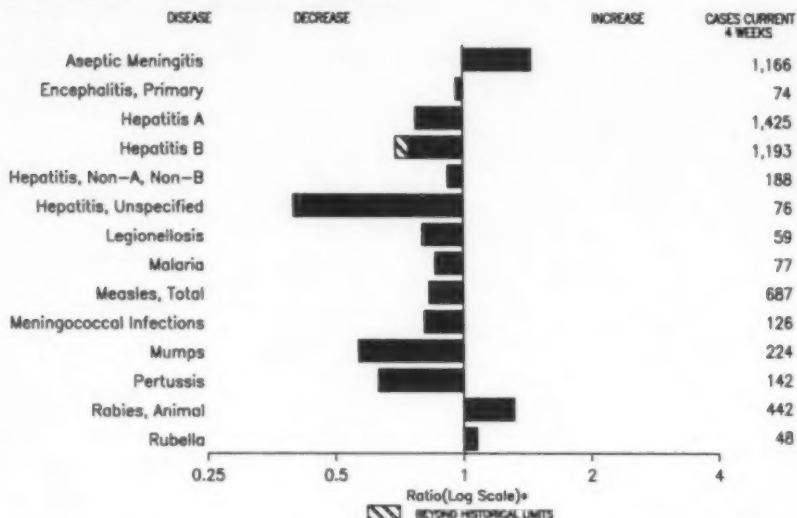
†Based on number of deaths.

‡Both groups include Hispanics.

\*When a death occurs under “accidental” circumstances, the preferred term within the public health community for the cause of death is “unintentional injury.”

\*\*Based on infant mortality rates.

FIGURE 1. Notifiable disease reports, comparison of 4-week totals ending July 20, 1991, with historical data — United States



\*Ratio of current 4-week total to the mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE 1. Summary — cases of specified notifiable diseases, United States, cumulative, week ending July 20, 1991 (29th Week)

	Cum. 1991		Cum. 1991
AIDS	24,516	Measles: imported	120
Anthrax	-	indigenous	7,366
Botulism: Foodborne	11	Plague	-
Infant	36	Poliomyelitis, Paralytic*	-
Other	4	Psittacosis	54
Brucellosis	35	Rabies, human	-
Cholera	14	Syphilis, primary & secondary	23,158
Congenital rubella syndrome	11	Syphilis, congenital, age < 1 year	12
Diphtheria	1	Tetanus	16
Encephalitis, post-infectious	46	Toxic shock syndrome	174
Gonorrhea	319,348	Trichinosis	15
Haemophilus influenzae (invasive disease)	1,866	Tuberculosis	12,170
Hansen Disease	72	Tularemia	76
Leptospirosis	34	Typhoid fever	190
Lyme Disease	3,562	Typhus fever, tickborne (RMSF)	244

\*No cases of suspected poliomyelitis have been reported in 1991; none of the 6 suspected cases in 1990 have been confirmed to date. Five of the 13 suspected cases in 1989 were confirmed and all were vaccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending July 20, 1991, and July 21, 1990 (29th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA, NB	Unspecified		
	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991
UNITED STATES	24,516	4,093	382	48	319,348	374,899	13,579	9,175	1,636	739	610	3,582
NEW ENGLAND	993	256	17	1	7,890	10,079	329	482	51	24	42	598
Maine	32	9	3	-	83	128	14	15	2	-	-	-
N.H.	27	21	2	-	154	119	23	17	5	-	3	18
Vt.	11	102	1	-	27	32	14	5	-	-	2	4
Mass.	589	69	9	1	3,294	4,087	161	357	27	21	34	58
R.I.	38	48	-	-	634	589	60	17	10	3	3	62
Conn.	296	7	2	-	3,688	5,114	57	71	2	-	-	456
MID. ATLANTIC	6,647	477	27	10	37,831	52,021	1,238	805	163	14	176	2,210
Upstate N.Y.	776	234	13	6	6,801	7,607	524	318	100	8	60	1,461
N.Y. City	3,882	103	-	-	13,855	22,401	388	104	5	-	19	-
N.J.	1,333	-	-	-	6,493	8,734	154	196	33	-	20	380
Pa.	656	140	14	4	10,682	13,279	172	187	25	6	77	369
E.N. CENTRAL	1,679	723	108	6	57,418	70,808	1,693	1,075	268	34	117	118
Ohio	356	231	38	2	17,454	21,427	241	252	120	14	59	69
Ind.	152	86	12	1	6,104	6,129	252	140	1	1	11	7
Ill.	720	117	26	3	17,064	22,166	717	151	31	1	6	3
Mich.	336	272	29	-	13,371	16,232	196	340	76	18	31	39
Wis.	115	17	3	-	3,425	4,854	287	192	40	-	10	-
W.N. CENTRAL	647	252	19	7	15,762	19,062	1,382	421	176	14	31	132
Minn.	141	37	11	-	1,573	2,303	213	43	12	2	4	23
Iowa	65	55	-	4	1,111	1,416	33	27	8	3	9	8
Mo.	347	114	6	3	9,655	11,410	374	286	162	6	11	97
N. Dak.	4	1	-	-	22	72	29	3	2	1	1	-
S. Dak.	1	4	2	-	206	127	518	3	-	-	3	-
Nebr.	37	14	-	-	1,104	934	163	22	1	-	3	-
Kans.	52	27	-	-	2,091	2,800	52	37	1	2	-	4
S. ATLANTIC	5,830	916	78	17	97,831	106,908	958	1,890	235	157	101	226
Del.	46	16	1	-	1,374	1,744	7	31	4	2	2	21
Md.	560	75	14	1	10,098	11,858	174	243	42	13	20	83
D.C.	396	2	1	-	5,473	7,188	51	86	1	1	-	-
Va.	415	140	24	3	9,362	9,745	106	118	22	110	7	48
W. Va.	38	5	2	-	648	692	14	34	1	7	-	16
N.C.	260	112	21	-	19,400	17,546	98	270	84	-	12	38
S.C.	187	28	-	-	7,499	8,543	27	431	16	3	20	3
Ga.	806	141	6	2	23,860	23,713	112	278	29	-	12	10
Fla.	3,122	372	9	11	20,117	25,879	369	399	36	21	28	7
E.S. CENTRAL	583	327	22	-	30,586	30,253	133	768	199	3	34	63
Ky.	92	64	3	-	3,240	3,631	21	101	5	2	13	23
Tenn.	186	93	14	-	10,766	9,331	79	575	179	-	10	30
Ala.	196	142	5	-	8,870	9,756	27	84	11	1	10	10
Miss.	109	28	-	-	7,710	7,535	6	8	4	-	1	-
W.S. CENTRAL	2,432	542	39	1	37,144	40,252	1,953	1,204	58	138	24	41
Ark.	95	44	3	-	4,217	4,931	188	62	1	5	5	12
La.	393	65	9	-	8,622	7,607	81	156	4	4	5	-
Okla.	111	1	3	-	3,676	3,535	170	128	23	10	6	22
Tex.	1,633	432	24	1	20,629	24,179	1,514	858	30	119	8	7
MOUNTAIN	712	91	11	2	6,791	7,821	2,215	566	87	96	43	8
Mont.	20	2	1	-	62	100	60	45	3	5	2	-
Idaho	12	-	-	-	84	73	54	46	1	-	3	-
Wyo.	9	-	-	-	55	108	85	5	-	-	-	6
Colo.	256	33	2	1	1,915	1,978	330	82	34	17	8	-
N. Mex.	60	11	-	-	636	708	586	131	7	27	1	-
Ariz.	149	24	8	1	2,565	3,090	701	109	12	38	16	-
Utah	59	8	-	-	181	242	183	43	11	9	4	-
Nev.	147	13	-	-	1,293	1,522	217	125	19	-	9	2
PACIFIC	4,993	509	61	4	28,096	37,695	3,678	1,944	399	259	42	186
Wash.	297	-	6	-	2,399	3,355	359	269	95	14	1	-
Oreg.	135	-	-	-	1,151	1,421	228	177	72	7	1	-
Calif.	4,446	461	53	4	23,662	31,814	2,980	1,449	217	237	38	186
Alaska	14	20	2	-	441	694	82	22	12	1	-	-
Hawaii	101	28	-	-	452	411	19	27	3	-	2	-
Guam	2	-	-	-	-	158	-	-	-	-	-	-
P.R.	860	189	-	2	362	460	61	273	113	36	-	-
V.I.	13	-	-	-	256	241	-	5	-	-	-	-
Amer. Samoa	-	-	-	-	-	51	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	129	-	-	-	-	-	-

N: Not notifiable

U: Unavailable

C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending July 20, 1991, and July 21, 1990 (29th Week)

Reporting Area	Malaria	Measles (Rubella)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
		Cum. 1991	1991	Cum. 1991	1991	Cum. 1991		Cum. 1990	Cum. 1991	1991	Cum. 1991	1991	Cum. 1991	Cum. 1990	1991
UNITED STATES	567	146	7,366	5	120	16,429	1,322	52	2,710	48	1,156	1,791	15	1,034	661
NEW ENGLAND	40	-	44	-	10	261	91	1	21	4	185	209	1	4	7
Maine	1	-	-	-	-	29	6	-	-	-	44	6	-	-	-
N.H.	2	-	-	-	-	8	8	-	3	-	12	12	-	1	1
Mass.	1	-	5	-	-	1	10	-	2	-	3	6	-	-	-
R.I.	18	-	19	-	8	19	51	1	1	2	111	171	-	2	-
Conn.	7	-	18	-	-	30	-	-	3	-	-	2	-	-	1
	11	-	-	-	2	174	16	-	12	2	15	12	1	1	3
MID. ATLANTIC	83	30	3,922	-	6	1,159	138	7	200	9	101	325	1	557	4
Upstate N.Y.	20	-	302	-	4	305	76	-	73	7	70	253	1	536	3
N.Y. City	32	25	1,550	-	-	242	8	-	-	-	-	-	-	-	-
N.J.	24	-	548	-	1	243	27	-	54	-	1	19	-	-	-
Pa.	7	5	1,522	-	1	369	27	7	73	2	30	53	-	21	1
E.N. CENTRAL	50	1	66	1	10	3,353	203	3	257	7	195	457	8	172	30
Ohio	12	1	1	11	2	439	70	2	58	3	74	80	-	147	1
Ind.	2	-	-	-	1	409	13	-	6	3	47	66	-	1	-
Ill.	18	-	24	-	-	1,292	55	-	99	1	35	167	-	4	18
Mich.	16	-	39	-	-	463	46	1	78	-	23	40	8	19	9
Wis.	2	-	2	-	7	750	19	-	16	-	16	104	-	1	2
W.N. CENTRAL	26	-	33	-	2	774	79	1	79	1	73	66	-	15	6
Minn.	6	-	8	-	2	307	16	-	9	-	22	7	-	6	1
Iowa	4	-	15	-	-	24	7	1	15	-	8	7	-	5	4
Mo.	5	-	-	-	-	90	30	-	25	-	28	42	-	4	-
N. Dak.	1	-	-	-	-	-	1	-	2	-	1	1	-	-	-
S. Dak.	-	-	-	-	-	23	2	-	-	1	3	1	-	-	-
Nebr.	-	-	1	-	-	106	6	-	4	-	5	2	-	-	-
Kans.	4	-	9	-	-	224	17	-	24	-	6	6	-	-	-
S. ATLANTIC	111	3	407	-	17	966	242	7	976	7	109	148	-	11	15
Del.	1	-	21	-	-	11	2	-	6	-	-	4	-	-	-
Md.	31	-	167	-	-	202	27	5	186	-	17	37	-	6	2
D.C.	7	-	-	-	-	17	7	-	21	-	-	14	-	1	1
Va.	23	3	24	-	4	70	27	1	43	4	16	14	-	-	-
W. Va.	1	-	-	-	-	6	11	-	16	1	7	10	-	-	-
N.C.	3	-	32	-	3	30	45	-	198	-	18	35	-	1	-
S.C.	7	-	12	-	-	4	25	-	325	-	9	5	-	-	-
Ge.	14	-	10	-	4	107	49	-	31	-	22	13	-	-	-
Fla.	24	-	141	-	6	519	49	1	150	2	20	16	-	3	11
E.S. CENTRAL	10	-	6	-	1	112	92	2	154	1	43	88	-	100	1
Ky.	2	-	1	-	1	25	33	-	-	-	-	-	-	-	-
Tenn.	5	-	5	-	-	40	27	2	128	1	17	35	-	100	1
Ala.	3	-	-	-	-	21	31	-	8	-	26	48	-	-	-
Miss.	-	-	-	-	-	26	1	-	18	-	-	5	-	-	-
W.S. CENTRAL	34	-	115	-	12	3,687	97	13	298	4	33	36	-	5	2
Ark.	4	-	-	-	5	42	15	-	39	-	3	2	-	1	1
La.	8	-	-	-	-	10	22	-	19	-	9	13	-	-	-
Okla.	2	-	-	-	-	170	12	5	12	4	15	21	-	-	1
Tex.	20	-	115	-	7	3,685	48	8	228	-	6	-	-	4	-
MOUNTAIN	22	40	910	-	15	778	54	3	281	2	136	172	-	4	100
Mont.	1	-	-	-	-	1	9	-	-	1	1	24	-	-	13
Idaho	1	38	376	-	2	25	7	-	7	-	20	35	-	2	48
Wyo.	-	-	-	-	-	15	1	-	3	-	3	-	-	-	-
Colo.	7	-	1	-	4	122	10	1	105	-	66	62	-	-	4
N. Mex.	5	1	117	-	5	90	7	N	N	1	18	9	-	-	-
Ariz.	6	-	274	-	-	272	14	1	122	-	8	28	-	-	30
Utah	1	-	125	-	4	58	-	-	13	-	18	10	-	-	1
Nev.	1	1	17	-	-	195	6	1	11	-	2	4	-	2	4
PACIFIC	197	72	1,863	4	47	5,139	326	15	464	13	281	290	5	166	496
Wash.	16	-	1	-	3	254	38	5	93	4	71	68	-	-	-
Oreg.	5	-	34	319	29	199	41	N	N	-	37	26	-	2	9
Calif.	172	72	1,824	11	11	4,595	239	9	345	7	130	170	4	161	477
Alaska	-	-	-	-	1	80	7	-	9	-	11	4	-	-	-
Hawaii	4	-	4	-	3	11	1	1	17	2	32	22	1	3	10
Guam	-	U	-	U	-	1	-	U	-	U	-	-	U	-	-
P.R.	1	3	83	-	1	914	15	-	8	-	27	5	-	1	-
V.I.	-	U	-	U	-	21	-	U	7	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	268	-	U	-	U	-	-	U	-	-
C.N.M.I.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

<sup>a</sup>For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable <sup>1</sup>International <sup>2</sup>Out-of-state



TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending July 20, 1991, and July 21, 1990 (29th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991
UNITED STATES	23,158	27,007	174	12,170	12,505	76	190	244	3,309
NEW ENGLAND	615	1,008	8	308	272	1	17	5	22
Maine	-	5	3	11	-	-	1	-	-
N.H.	12	40	1	5	3	-	-	-	-
Vt.	1	1	-	4	7	-	-	-	1
Mass.	290	398	4	161	145	1	15	4	-
R.I.	33	7	-	27	41	-	-	-	-
Conn.	279	567	-	100	76	-	1	1	21
MID. ATLANTIC	3,909	5,708	28	2,798	2,991	-	38	6	1,047
Upstate N.Y.	103	488	13	187	250	-	6	5	359
N.Y. City	1,975	2,556	1	1,733	1,833	-	20	-	-
N.J.	790	928	-	496	505	-	9	1	495
Pa.	1,041	1,736	14	382	403	-	3	-	193
E.N. CENTRAL	2,584	1,846	35	1,200	1,199	2	13	18	65
Ohio	338	294	20	171	197	-	2	10	9
Ind.	75	42	-	86	108	-	-	6	5
Ill.	1,242	729	7	639	594	-	3	2	10
Mich.	664	572	8	248	251	2	7	-	10
Wis.	265	209	-	56	49	-	1	-	31
W.N. CENTRAL	403	261	30	299	318	29	2	18	507
Minn.	44	50	7	58	58	-	2	-	182
Iowa	35	35	6	43	34	-	-	1	95
Mo.	279	133	8	128	150	27	-	10	7
N. Dak.	-	1	-	3	13	-	-	-	62
S. Dak.	1	1	1	23	9	1	-	1	123
Nebr.	9	8	1	11	15	-	-	2	10
Kans.	35	33	7	33	39	1	-	4	28
S. ATLANTIC	6,939	8,647	15	2,273	2,290	4	36	102	812
Del.	88	102	1	16	27	-	-	-	91
Md.	581	651	-	210	183	-	7	12	303
D.C.	429	556	1	114	68	-	2	-	6
Va.	536	469	3	199	181	-	8	5	160
W. Va.	18	7	-	40	39	-	1	2	34
N.C.	1,066	1,012	7	310	298	1	1	51	2
S.C.	864	540	-	234	272	1	-	22	61
Ga.	1,713	2,190	-	439	344	1	4	9	135
Fla.	1,644	3,112	3	711	858	1	13	1	20
E.S. CENTRAL	2,569	2,236	9	852	915	8	2	43	103
Ky.	46	42	4	178	221	2	2	16	26
Tenn.	895	847	5	266	234	0	-	19	29
Ala.	934	711	-	222	285	-	-	8	48
Miss.	694	636	-	186	175	-	-	-	-
W.S. CENTRAL	4,274	4,396	6	1,444	1,523	21	8	48	409
Ark.	386	311	3	121	185	14	-	10	23
La.	1,366	1,344	-	128	191	-	1	-	4
Okla.	105	130	3	102	113	7	-	38	122
Tex.	2,417	2,611	-	1,083	1,034	-	7	-	260
MOUNTAIN	327	474	22	339	275	9	5	2	107
Mont.	5	-	-	3	10	7	-	2	20
Idaho	3	6	-	4	7	-	-	-	-
Wyo.	4	1	-	3	4	-	-	-	1
Colo.	52	30	4	33	13	1	1	-	51
N. Mex.	19	24	6	44	52	-	-	-	7
Ariz.	212	335	4	181	139	-	3	-	1
Utah	5	5	8	30	18	-	-	-	20
Nev.	27	73	-	41	32	-	1	-	4
PACIFIC	1,538	2,431	21	2,657	2,722	2	69	2	237
Wash.	95	245	3	167	152	1	3	1	1
Oreg.	45	88	-	59	74	-	3	1	1
Calif.	1,390	2,072	18	2,289	2,371	1	61	-	231
Alaska	4	11	-	31	26	-	-	-	3
Hawaii	4	15	-	111	97	-	2	-	1
Guam	-	2	-	-	23	-	-	-	-
P.R.	264	204	-	109	66	-	8	-	25
V.I.	69	2	-	1	4	-	-	-	-
Amer. Samoa	-	-	-	-	11	-	-	-	-
C.N.M.I.	-	1	-	-	30	-	-	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,\* week ending  
July 20, 1991 (29th Week)

Reporting Area	All Causes, By Age (Years)						P&I**	Total	Reporting Area	All Causes, By Age (Years)						P&I**	Total
	All Ages	>65	45-64	25-44	1-24	<1				All Ages	>65	45-64	25-44	1-24	<1		
NEW ENGLAND	592	417	111	39	12	13	40		S. ATLANTIC	1,526	907	325	182	56	56	82	
Boston, Mass.	164	101	33	18	7	5	13		Atlanta, Ga.	178	102	37	21	8	10	4	
Bridgeport, Conn.	35	30	2	1	1	1	1		Baltimore, Md.	272	152	69	36	9	6	21	
Cambridge, Mass.	21	18	3	-	-	-	1		Charlotte, N.C.	106	56	30	8	8	4	2	
Fall River, Mass.	22	17	4	-	-	-	-		Jacksonville, Fla.	114	73	21	16	3	1	7	
Hartford, Conn.	53	32	13	5	2	1	1		Miami, Fla.	117	57	25	19	5	11	-	
Lowell, Mass.	23	15	7	1	-	-	3		Norfolk, Va.	55	27	13	6	3	6	4	
Lynn, Mass.	13	11	1	1	-	-	-		Richmond, Va.	90	60	21	7	2	-	8	
New Bedford, Mass.	30	25	5	-	-	-	2		Savannah, Ga.	67	48	12	4	1	2	10	
New Haven, Conn.	39	27	5	4	1	2	3		St. Petersburg, Fla.	87	57	14	7	2	7	-	
Providence, R.I.	49	34	11	4	-	-	3		Tampa, Fla.	180	114	36	26	1	3	16	
Somerville, Mass.	8	7	1	-	-	-	-		Washington, D.C.	223	133	42	28	14	6	6	
Springfield, Mass.	49	33	11	2	1	2	6		Wilmington, Del.	37	28	5	4	-	-	4	
Watersbury, Conn.	28	23	4	1	-	-	2		E.S. CENTRAL	870	555	170	78	50	16	40	
Worcester, Mass.	58	44	11	1	-	-	2		Birmingham, Ala.	124	85	17	11	6	5	5	
MID. ATLANTIC	2,769	1,765	517	343	80	84	128		Chattanooga, Tenn.	81	58	15	5	3	-	4	
Albany, N.Y.	45	33	5	3	1	3	1		Knoxville, Tenn.	71	51	15	2	1	2	10	
Allentown, Pa.	17	13	3	1	-	-	-		Louisville, Ky.	89	50	23	12	3	1	2	
Buffalo, N.Y.	112	72	20	13	5	2	5		Memphis, Tenn.	193	124	37	15	11	5	11	
Camden, N.J.	44	28	8	6	-	2	5		Mobile, Ala.	127	77	24	14	11	1	3	
Elizabeth, N.J.	28	21	3	3	1	-	1		Montgomery, Ala.	45	31	7	3	4	-	-	
Erie, Pa.†	51	36	12	3	1	-	4		Nashville, Tenn.	140	79	32	16	11	2	5	
Jersey City, N.J.	67	32	23	8	2	2	1		W.S. CENTRAL	1,040	646	194	113	48	39	35	
New York City, N.Y.	1,493	915	283	207	52	36	60		Austin, Tex.	58	34	12	6	1	5	4	
Newark, N.J.	70	28	9	26	5	2	5		Baton Rouge, La.	28	21	3	3	1	-	3	
Petersburg, N.J.	22	11	7	2	1	1	1		Corpus Christi, Tex.	44	33	7	3	1	-	2	
Philadelphia, Pa.	385	275	70	28	5	11	24		Dallas, Tex.	178	100	34	29	10	5	1	
Pittsburgh, Pa.†	59	42	11	5	1	-	3		El Paso, Tex.	61	43	8	5	4	1	4	
Reading, Pa.	34	28	4	2	-	-	6		Ft. Worth, Tex.	116	59	24	17	9	7	1	
Rochester, N.Y.	117	74	21	18	2	2	3		Houston, Tex.†	U	U	U	U	U	U	U	
Schenectady, N.Y.	29	22	6	1	-	-	3		Little Rock, Ark.	63	36	17	3	2	5	-	
Scranton, Pa.†	18	13	3	2	-	-	-		New Orleans, La.	158	96	25	20	9	8	-	
Syracuse, N.Y.	98	72	17	5	3	1	3		San Antonio, Tex.	191	128	35	17	6	5	12	
Trenton, N.J.	39	21	8	7	1	2	1		Shreveport, La.	38	29	5	2	-	2	2	
Utica, N.Y.	21	18	2	1	-	-	1		Tulsa, Okla.	105	67	24	8	5	1	6	
Yonkers, N.Y.	16	12	2	2	-	-	3		MOUNTAIN	658	400	146	65	20	27	26	
E.N. CENTRAL	2,060	1,235	419	198	136	72	117		Albuquerque, N.M.	91	60	14	13	2	2	2	
Akron, Ohio	72	52	12	2	4	2	-		Colo. Springs, Colo.	40	23	8	4	2	3	1	
Canton, Ohio	36	24	8	2	2	-	3		Denver, Colo.	91	55	25	5	2	4	5	
Chicago, Ill.	413	159	100	76	67	11	15		Las Vegas, Nev.	120	65	38	11	4	2	3	
Cincinnati, Ohio	95	60	15	4	3	4	13		Ogden, Utah	17	10	5	1	1	-	1	
Cleveland, Ohio	123	77	30	8	3	5	3		Phoenix, Ariz.	129	84	20	11	4	10	4	
Columbus, Ohio	166	103	30	17	5	11	11		Pueblo, Colo.	19	14	3	2	-	-	-	
Dayton, Ohio	101	67	23	4	3	4	7		Salt Lake City, Utah	35	16	7	8	1	3	1	
Detroit, Mich.	212	138	25	25	14	10	7		Tucson, Ariz.	116	73	26	10	4	3	9	
Evansville, Ind.	40	28	6	1	2	3	-		PACIFIC	1,888	1,199	347	194	69	52	113	
Fort Wayne, Ind.	59	41	12	3	1	2	2		Berkeley, Calif.	18	13	4	-	-	1	2	
Gary, Ind.	20	9	6	3	2	-	1		Fresno, Calif.	95	48	19	12	4	12	4	
Grand Rapids, Mich.	58	24	16	9	4	3	6		Glendale, Calif.	24	21	1	2	-	-	-	
Indianapolis, Ind.	171	99	34	15	11	12	8		Honolulu, Hawaii	67	41	17	7	1	1	10	
Madison, Wis.	38	26	6	3	3	-	5		Long Beach, Calif.	85	53	17	8	4	3	7	
Milwaukee, Wis.	138	94	31	11	2	-	16		Los Angeles, Calif.	482	287	95	56	29	9	20	
Peoria, Ill.	45	27	10	4	2	2	3		Oakland, Calif.†	U	U	U	U	U	U	U	
Rockford, Ill.	46	36	7	1	1	1	4		Pasadena, Calif.	29	25	1	2	-	1	1	
South Bend, Ind.	48	33	10	3	1	1	4		Portland, Ore.	135	104	15	11	1	4	6	
Toledo, Ohio	109	77	25	2	4	1	7		Sacramento, Calif.	185	120	38	20	4	3	14	
Youngstown, Ohio	72	52	13	5	2	-	2		San Diego, Calif.	146	91	22	23	8	1	16	
W.N. CENTRAL	841	575	139	86	17	24	48		San Francisco, Calif.	164	93	36	28	5	2	6	
Des Moines, Iowa	57	39	14	4	-	-	-		San Jose, Calif.	152	111	25	10	2	4	13	
Duluth, Minn.	27	22	3	2	-	-	-		Seattle, Wash.	147	94	31	9	6	7	4	
Kansas City, Kans.	42	28	9	3	-	-	1		Spokane, Wash.	59	39	13	4	1	2	5	
Kansas City, Mo.	149	100	25	19	2	3	11		Tacoma, Wash.	80	59	13	2	4	2	5	
Lincoln, Nebr.	38	29	5	1	3	-	3		TOTAL	12,224	7,699	2,368	1,298	458	262	629	
Minneapolis, Minn.	175	121	23	17	6	8	17										
Omaha, Nebr.	90	60	15	12	1	2	2										
St. Louis, Mo.	132	80	27	19	2	4	7										
St. Paul, Minn.	68	49	12	3	2	2	3										
Wichita, Kans.	63	46	6	6	1	4	2										

\*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

\*\*Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

‡Report for this week is unavailable (U).

*Mortality - Continued*

"accidents and adverse effects"<sup>†††</sup> rubrics E800-E949) was 2.7 times higher for males. The smallest gender-specific difference was for diabetes mellitus (ICD-9 rubric 250) (male-to-female ratio = 1.1:1).

In 1988, 330 women were reported to have died of maternal causes; however, this number includes only those deaths assigned to complications of pregnancy, childbirth, and the puerperium (ICD-9 rubrics 630-676). Based on this total, the maternal mortality rate was 8.4 deaths per 100,000 live births, 27% higher than in 1987.

In 1988, 16,602 deaths were attributed to HIV infection. Of these, 10,479 (63.1%) were among white males, 4,202 (25.3%) among black males, 995 (6.0%) among black females, and 788 (4.7%) among white females. Most (73.6%) HIV-associated deaths occurred among persons aged 25-44 years. Age-adjusted death rates per 100,000 persons were highest for black males (29.3), followed by white males (10.3), black females (6.3), and white females (0.7).

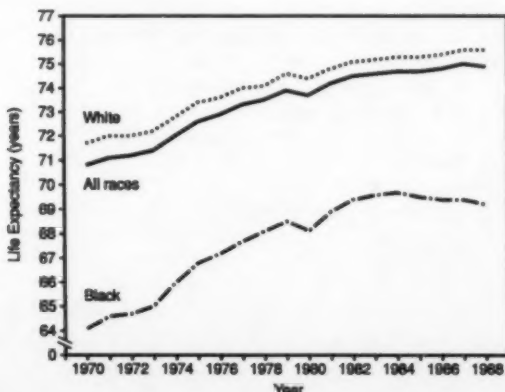
Overall life expectancy (LE) at birth in 1988 was 74.9 years. Although LE was stable for whites (75.6 years) when compared with 1987, it decreased for blacks (from 69.4 to 69.2 years). LE for whites was at the record high achieved in previous years, while black LE was only slightly above the level achieved in 1981 (68.9 years). The difference in LE between whites and blacks widened steadily to 6.4 from 1984 to 1988, after narrowing from 7.6 years in 1970 to 5.6 years in 1984 (Figure 1). Although the difference in LE between the sexes has narrowed since 1979, women are still expected to outlive men by an average of 6.9 years.

*Reported by: Div of Vital Statistics, National Center for Health Statistics, CDC.*

**Editorial Note:** The mortality data in this report can be used to monitor the health of the nation and to identify groups at greatest risk for specific diseases, injuries, and death. One indicator of the nation's health is expectation of life at birth. Although LE has generally been increasing, in recent years the gap in LE between the black and white populations has begun to widen, reversing a previous trend. Mortality data indicate that the particular causes of death contributing to this divergence are heart

<sup>†††</sup>When a death occurs under "accidental" circumstances, the preferred term within the public health community is "unintentional injury."

**FIGURE 1. Life expectancy in years, by year of birth and by race - United States, 1970-1988**



*Mortality — Continued*

disease, HIV infection, and homicide. Moreover, although the data indicate that for both racial groups, mortality from some chronic diseases (e.g., cancer and cerebrovascular diseases [ICD-9 rubrics 430–438]) has declined, these gains are offset by trends in younger age groups in which mortality is increasing.

*Reference*

1. NCHS. Advance report of final mortality statistics. 1988. Hyattsville, Maryland: U.S. Department of Health and Human Services, Public Health Service, CDC, 1990. (Monthly vital statistics report; vol 39, no 7, suppl).

### **National Electronic Telecommunications System for Surveillance — United States, 1990–1991**

The National Electronic Telecommunications System for Surveillance (NETSS) was developed by CDC and the Council of State and Territorial Epidemiologists (CSTE) for collecting, transmitting, analyzing, and publishing weekly reports of notifiable diseases and injuries (Figure 1 [f] and Tables I and II, pages 496–9) from the 50 states, New York City, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, American Samoa, and Commonwealth of the Northern Mariana Islands. Operation of NETSS is facilitated by CDC/CSTE agreements on reportable conditions, protocols for formatting and transmitting data, standard case definitions, and designated staff members in each participating agency who provide and prepare the data for weekly publication in *MMWR*. This report describes the development and operation of NETSS and presents tabulations of national surveillance data for 1990 (tables on pages 505–10).

Before 1984, reports for each of 37 notifiable diseases (23 common diseases and 14 less frequent conditions) were transmitted weekly by telephone from each agency to CDC, but only the total number of cases could be transmitted by this method. In 1984, six state health departments and CDC developed a system for transmitting individual case records to CDC over commercial telecommunications systems. The system is based on a common record format permitting health agencies to use different computer software and hardware. Since 1989, all 50 states and some territories and cities have used computerized disease surveillance systems and transmitted surveillance data in the standard format to CDC, thus fulfilling one of the 1990 health objectives for the nation (2).

Data for the tables published each week in *MMWR* and its annual summary are provided through NETSS. Reports of notifiable conditions are forwarded from local sources (e.g., health-care providers and health departments) to the participating agencies, where they are entered into a computer in a format chosen by each agency. A variety of computer systems (e.g., Epi Info (3) in 36 states, dBase\*\*, or mainframe programs) then create data files in the standard NETSS format without names or other personal identifiers. Most of the files are transmitted through the Public Health Network on BT North America\* (formerly Dialcom) to CDC, where they are processed in a mainframe computer. During a 24-hour period each Tuesday and Wednesday, tables are produced, edited, and typeset for publication in the *MMWR*.

In January 1991, a new format for NETSS records was sent to each state epidemiologist. The new format provides for transmission of both individual and

\*Use of trade names is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

*Telecommunications System — Continued*

summary (aggregate) records, supplementary disease-specific forms, frequent updating of state and national databases, and other improvements. CDC is now receiving records in the new format from a limited number of states; complete implementation is expected in 1993.

*Reported by: Council of State and Territorial Epidemiologists. Div of Surveillance and Epidemiology, Epidemiology Program Office, CDC.*

**Editorial Note:** Many records previously submitted as paper forms or computer files to various programs at CDC will be transmitted through NETSS to a single entry port at CDC for distribution to the relevant programs. Other improvements will include enhancements in accuracy and completeness of surveillance data, as well as more timely return of data to the states.

A new software system is being developed on the CDC mainframe for receiving and error-checking records transmitted by the states and for returning status reports and annual summaries. This system will be linked with a different system, the Wide-ranging ONline Data for Epidemiologic Research (WONDER) (4), to provide access on-line to summaries of disease reports beginning with 1989 data later this year.

Thirty-six states now use Epi Info surveillance software written and supported by CDC staff. A new version of this software that offers more extensive error checking, the ability to review summary data for 5 years, and enhanced graphics is available for installation. The new system contains both standard and customizable elements to enable achievement of both local needs and file exchange of standardized software systems.

The annual summary of disease totals for 1990 (tables on pages 505–510) is available earlier in the year than any previous report. Completion of the enhancements in NETSS may facilitate earlier publication of annual summary data in the future.

*References*

1. CDC. Changes in format for presentation of notifiable disease report data. *MMWR* 1990; 39:234.
2. Public Health Service. Promoting health/preventing disease: objectives for the nation. Washington, DC: US Department of Health and Human Services, Public Health Service, 1980:59.
3. Dean AD, Dean JA, Burton JH, Dicker RC. Epi Info, version 5: a word processing, database, and statistics program for epidemiology on microcomputers. Atlanta: US Department of Health and Human Services, Public Health Service, CDC, 1990.
4. CDC. WONDER (Wide-ranging ONLINE Data for Epidemiologic Research) [software users' manual]. Atlanta: US Department of Health and Human Services, Public Health Service, CDC, 1991.

*Notices to Readers***1991 Diabetes Translation Conference**

CDC will sponsor the 1991 Diabetes Translation Conference, "Economic Realities of Diabetes Translation: The Art and the Science," October 20 and 21, 1991, in Washington, D.C.

The conference will focus on readily usable information, methods, and procedures for diabetes-care financing. Topics include application of basic health economics principles to diabetes translation efforts, coordinating expanded diabetes insurance

*Notices to Readers — Continued*

coverage via mutually beneficial agreements among "conflicting interests," improving financing of diabetes care for underinsured and uninsured persons, and producing and interpreting estimates of diabetes costs for use in improving diabetes-care financing in the states.

Additional information is available from the Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, CDC, Mailstop K-10, 1600 Clifton Road, NE, Atlanta, GA 30333; (404) 488-5000 or FTS 236-5000; fax (404) 488-5966.

### **Publication on Children's Exposure to Environmental Smoke**

CDC's National Center for Health Statistics (NCHS) has released a report on the effect of children's exposure to environmental cigarette smoke before and after birth. Data are based on the 1988 National Health Interview Survey on Child Health, conducted by NCHS in collaboration with the National Institute of Child Health and Human Development and the Health Resources and Services Administration. Statistics are presented by race, family income, poverty level, and place of residence. Data by exposure level are included as well.

Copies of the report, "Children's Exposure to Environmental Cigarette Smoke Before and After Birth—Health of Our Nation's Children, 1988" (1), are available free of charge from the Scientific and Technical Information Branch, NCHS, CDC, Room 1064, 6525 Belcrest Road, Hyattsville, MD 20782; telephone (301) 436-8500.

*Reference*

1. NCHS. Children's exposure to environmental cigarette smoke before and after birth—health of our nation's children, 1988. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1991. (Advance data no. 202).

### **Publication on the Characteristics of Persons With and Without Health-Care Coverage**

CDC's National Center for Health Statistics (NCHS) has released a report that provides statistics on the more than 33 million Americans lacking health-care coverage. Data on persons with and without coverage and by type of coverage (i.e., private health insurance, Medicare, public assistance, and military/Veterans' Administration health-care coverage) are reported by age, sex, race, and region.

Copies of the report "Characteristics of Persons With and Without Health Care Coverage: United States, 1989," (1) are available free of charge from the Scientific and Technical Information Branch, NCHS, CDC, Room 1064, 6525 Belcrest Road, Hyattsville, MD 20782; telephone (301) 436-8500.

*Reference*

1. NCHS. Characteristics of persons with and without health care coverage: United States, 1989. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1991. (Advance data no. 201).



# NOTIFIABLE DISEASES—Reported cases, by geographic division and area, United States, 1990

Area	Total Resident Population	AIDS	Amebiasis	Aseptic Meningitis	Botulism		
					Food-borne	Infant	Other
<b>United States</b>	<b>248,709,873*</b>	<b>41,595†</b>	<b>3,328</b>	<b>11,852</b>	<b>20</b>	<b>68</b>	<b>45</b>
<b>New England</b>	<b>13,296,943</b>	<b>1,512</b>	<b>124</b>	<b>429</b>	—	—	—
Maine	1,227,928	67	11	21	—	—	—
N.H.	1,109,252	66	4	45	—	—	—
Vt.	562,758	22	4	40	—	—	—
Mass.	6,016,425	844	50	140	—	—	—
R.I.	1,003,464	88	2	126	—	—	—
Conn.	3,287,116	425	53	48	—	—	—
<b>Mid. Atlantic</b>	<b>37,602,286</b>	<b>12,060</b>	<b>564</b>	<b>1,154</b>	—	8	—
N.Y. (Excl. NYC)	10,667,891	1,511	76	587	—	1	—
N.Y.C.	7,322,564	6,888	410	165	—	1	—
N.J.	7,730,188	2,464	21	—	—	2	—
Pa.	11,881,643	1,197	47	402	—	4	—
<b>E.N. Central</b>	<b>42,598,942</b>	<b>3,006</b>	<b>208</b>	<b>3,574</b>	<b>1</b>	<b>5</b>	—
Ohio	10,847,115	660	25	703	—	2	—
Ind.	5,544,159	262	33	355	1	3	—
Ill.	11,430,602	1,278	59	934	—	—	—
Mich.	9,295,297	577	32	1,133	—	—	—
Wis.	4,891,769	209	59	449	—	—	—
<b>W.N. Central</b>	<b>17,659,690</b>	<b>1,062</b>	<b>123</b>	<b>596</b>	—	<b>1</b>	—
Minn.	4,375,099	204	54	122	—	—	—
Iowa	2,776,755	69	36	123	—	—	—
Mo.	5,117,073	583	26	246	—	—	—
N. Dak.	638,800	2	2	25	—	—	—
S. Dak.	696,004	9	—	11	—	—	—
Nebr.	1,578,385	58	1	—	—	1	—
Kans.	2,477,574	137	4	69	—	—	—
<b>S. Atlantic</b>	<b>43,566,853</b>	<b>8,807</b>	<b>163</b>	<b>2,150</b>	—	<b>9</b>	—
Del.	668,168	94	6	47	—	—	—
Md.	4,781,468	1,002	6	271	—	8	—
D.C.	606,900	741	1	35	—	—	—
Va.	6,187,358	738	18	386	—	1	—
W. Va.	1,793,477	62	7	56	—	—	—
N.C.	6,628,637	558	16	260	—	—	—
S.C.	3,486,703	342	NN	28	—	—	—
Ga.	6,478,216	1,223	76	328	—	—	—
Fla.	12,937,926	4,047	33	739	—	—	—
<b>E.S. Central</b>	<b>15,176,294</b>	<b>1,049</b>	<b>33</b>	<b>751</b>	<b>1</b>	<b>3</b>	—
Ky.	3,685,296	189	17	194	—	2	—
Tenn.	4,877,185	342	NN	189	1	1	—
Ala.	4,040,587	239	9	245	—	—	—
Miss.	2,573,216	279	7	123	—	—	—
<b>W.S. Central</b>	<b>26,702,793</b>	<b>4,475</b>	<b>147</b>	<b>1,054</b>	—	<b>7</b>	—
Ark.	2,350,725	208	2	73	—	—	—
La.	4,219,973	703	1	87	—	—	—
Okl.	3,145,585	203	5	83	—	—	—
Tex.	16,986,510	3,361	139	811	—	7	—
<b>Mountain</b>	<b>13,658,776</b>	<b>1,125</b>	<b>139</b>	<b>423</b>	<b>2</b>	—	—
Mont.	799,065	17	2	7	—	—	—
Idaho	1,006,749	28	18	10	—	—	—
Wyo.	453,588	3	7	10	—	—	—
Colo.	3,294,394	364	50	108	1	—	—
N. Mex.	1,515,069	109	9	24	—	—	—
Ariz.	3,665,228	315	34	174	1	—	—
Utah	1,722,850	98	12	29	—	—	—
Nev.	1,201,833	191	7	61	—	—	—
<b>Pacific</b>	<b>39,127,306</b>	<b>8,499</b>	<b>1,837</b>	<b>1,730</b>	<b>16</b>	<b>34</b>	<b>4</b>
Wash.	4,866,692	637	47	—	—	—	—
Oreg.	2,842,321	335	144	—	2	1	1
Calif.	29,760,021	7,346	1,638	1,525	4	25	3
Alaska	550,043	25	4	108	—	—	—
Hawaii	1,108,229	156	4	97	1	4	—
Guam	NA	2	2	6	—	—	—
P.R.	NA	1,730	—	108	—	—	—
V.I.	NA	11	—	—	—	—	—
American Samoa	NA	—	—	—	—	—	—
C.N.M.I.	NA	—	17**	—	—	—	—

NOTE: No cases of anthrax were reported for 1990.

\*Bureau of the Census, 1990 Census Population, summary tape file STF-1A.

†AIDS total update through December 31, 1990.

‡Includes wound and unspecified botulism.

\*\*Provisional data.

**NOTIFIABLE DISEASES—Reported cases, by geographic division and area, United States, 1990 (continued)**

Area	Brucel- losis	Chancroid	Cholera	Diphtheria	Encephalitis		Gonor- rhea	Granuloma Inguinale
					Primary Infections	Post- infectious		
United States	85	4,215	5	4	1,341	106	690,323*	97*
New England	2	29	—	—	30	—	17,507	—
Maine	—	—	—	—	3	—	200	—
N.H.	—	—	—	—	—	—	253	—
Vt.	1	—	—	—	2	—	55	—
Mass.	1	27	—	—	16	—	7,538	—
R.I.	—	1	—	—	1	—	1,200	—
Conn.	—	1	—	—	9	—	8,261	—
Mid. Atlantic	3	1,589	2	—	60	9	100,327	2
N.Y.(excl.NYC)	—	12	—	—	45	1	15,947	—
N.Y.C.	1	1,584	2	—	8	4	35,636	2
N.J.	2	3	—	—	—	—	17,780	—
Pa.	—	—	—	—	7	4	30,764	—
E.N. Central	9	48	—	—	354	24	129,677	6
Ohio	—	16	—	—	92	4	40,411	—
Ind.	—	11	—	—	24	13	11,365	—
Ill.	5	12	—	—	130	7	38,230	1
Mich.	4	8	—	—	61	—	31,231	5
Wis.	—	1	—	—	27	—	8,640	—
W.N. Central	5	19	—	1	125	2	33,592	2
Minn.	—	—	—	1	75	1	4,184	—
Iowa	3	—	—	—	7	—	2,331	—
Mo.	1	—	—	—	11	1	20,019	—
N. Dak.	—	—	—	—	3	—	100	—
S. Dak.	—	—	—	—	9	—	309	—
Nebr.	—	—	—	—	7	—	1,803	—
Kans.	1	13	—	—	13	—	4,846	2
S. Atlantic	15	821	—	1	437	34	198,162	4
Del.	1	—	—	—	5	—	3,373	—
Md.	—	1	—	—	26	1	23,413	—
D.C.	1	5	—	—	1	1	14,685	—
Va.	2	5	—	—	58	1	17,647	2
W. Va.	—	5	—	—	63	—	1,473	—
N.C.	2	92	—	—	42	—	32,079	1
S.C.	—	—	—	—	1	—	14,023	—
Ga.	3	324	—	—	5	1	49,018	1
Fla.	6	389	—	1	238	30	42,451	—
E.S. Central	1	15	—	—	70	—	61,589	—
Ky.	—	2	—	—	28	—	5,770	—
Tenn.	1	1	—	—	30	—	19,930	—
Ala.	—	12	—	—	14	—	21,566	—
Miss.	—	—	—	—	—	—	14,303	—
W.S. Central	22	1,570	2	—	96	9	71,179	46
Ark.	1	1	—	—	10	—	8,511	—
La.	2	266	2	—	11	1	13,199	1
Okla.	1	—	—	—	3	6	6,238	—
Tex.	18	1,303	—	—	72	2	43,231	44
Mountain	2	7	—	1	27	2	13,605	—
Mont.	—	1	—	—	—	—	246	—
Idaho	1	—	—	—	—	—	158	—
Wyo.	—	—	—	—	1	—	156	—
Colo.	1	—	—	—	6	—	3,465	—
N. Mex.	—	—	—	1	1	—	1,235	—
Ariz.	—	2	—	—	10	—	5,318	—
Utah	—	4	—	—	5	—	397	—
Nev.	—	—	—	—	4	2	2,630	—
Pacific	26	113	2	1	142	25	64,505	38
Wash.	—	—	—	—	8	3	5,163	1
Oreg.	—	—	—	1	—	—	2,545	—
Calif.	26	113	2	—	125	20	55,127	37
Alaska	—	—	—	—	7	—	1,066	—
Hawaii	—	—	—	—	2	2	604	—
Guam	—	1	1	—	1	—	188	—
P.R.	—	4	—	—	9	1	1,276	—
V.I.	—	3	—	—	—	—	415	—
American Samoa	—	—	—	—	—	—	—	—
C.N.M.I.	—	—	—	—	—	—	—	—

\*Civilian cases only.

**NOTIFIABLE DISEASES—Reported cases, by geographic division and area, United States, 1990 (continued)**

Area	Hepatitis A	Hepatitis B	Hepatitis unsp.	Hepatitis non-A non-B	Legionel- losis	Leprosy	Lepto- spirosis	Lympho- granuloma Venereum	Malaria
<b>United States</b>	<b>31,441</b>	<b>21,102</b>	<b>1,671</b>	<b>2,553</b>	<b>1,370</b>	<b>198</b>	<b>77</b>	<b>277*</b>	<b>1,292</b>
<b>New England</b>	<b>811</b>	<b>1,072</b>	<b>60</b>	<b>58</b>	<b>77</b>	<b>12</b>	<b>2</b>	<b>14</b>	<b>99</b>
Maine	9	28	1	5	5	—	1	1	4
N.H.	9	41	3	9	4	—	—	—	4
Vt.	6	51	1	8	6	—	—	—	7
Mass.	398	644	52	26	52	10	—	13	49
R.I.	52	51	3	—	10	1	—	—	9
Conn.	137	257	—	10	—	1	1	—	26
<b>Mid. Atlantic</b>	<b>4,286</b>	<b>2,852</b>	<b>92</b>	<b>246</b>	<b>441</b>	<b>23</b>	<b>5</b>	<b>40</b>	<b>284</b>
N.Y.(excl.NYC)	1,272	695	25	91	155	1	2	—	57
N.Y.C.	791	674	39	26	94	17	—	39	114
N.J.	437	540	—	45	52	4	1	1	76
Pa.	1,786	743	28	84	140	1	2	—	37
<b>E.N. Central</b>	<b>3,128</b>	<b>2,383</b>	<b>87</b>	<b>261</b>	<b>333</b>	<b>7</b>	<b>2</b>	<b>9</b>	<b>87</b>
Ohio	291	387	15	94	96	—	—	—	9
Ind.	250	314	6	28	42	—	1	7	3
Ill.	1,726	596	21	75	35	3	1	1	48
Mich.	381	641	45	47	98	1	—	—	18
Wis.	480	445	—	17	62	3	—	—	9
<b>W.N. Central</b>	<b>2,124</b>	<b>998</b>	<b>33</b>	<b>139</b>	<b>72</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>30</b>
Minn.	326	123	—	34	8	—	—	—	9
Iowa	278	54	4	13	4	—	—	—	2
Mo.	619	633	19	42	34	—	3	4	13
N. Dak.	33	8	2	2	1	—	—	—	—
S. Dak.	493	8	—	4	3	—	—	—	—
Nebr.	104	33	—	4	13	1	—	—	—
Kans.	271	139	8	40	9	—	—	—	6
<b>S. Atlantic</b>	<b>3,141</b>	<b>4,309</b>	<b>221</b>	<b>389</b>	<b>190</b>	<b>6</b>	<b>3</b>	<b>147</b>	<b>240</b>
Del.	96	96	1	8	12	—	—	1	6
Md.	951	564	12	44	57	3	1	1	59
D.C.	39	128	—	8	3	—	—	16	21
Va.	302	279	148	46	13	—	1	2	54
W. Va.	24	87	10	4	4	—	—	—	2
N.C.	649	1,095	—	149	36	1	—	10	23
S.C.	45	623	9	15	25	—	—	—	3
Ga.	378	539	8	14	24	—	1	80	17
Fla.	657	896	33	72	16	2	—	37	55
<b>E.S. Central</b>	<b>463</b>	<b>1,623</b>	<b>7</b>	<b>233</b>	<b>60</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>25</b>
Ky.	92	467	5	39	22	—	—	1	3
Tenn.	216	866	—	154	24	1	3	1	12
Ala.	99	167	—	25	13	—	—	2	7
Miss.	46	123	2	15	1	—	2	—	3
<b>W.S. Central</b>	<b>4,150</b>	<b>2,463</b>	<b>342</b>	<b>183</b>	<b>67</b>	<b>38</b>	<b>3</b>	<b>30</b>	<b>103</b>
Ark.	604	122	23	18	10	—	—	1	4
La.	218	361	8	6	15	1	1	1	9
Okl.	606	181	24	29	17	—	1	—	10
Tex.	2,722	1,789	287	130	25	37	1	28	80
<b>Mountain</b>	<b>4,665</b>	<b>1,506</b>	<b>134</b>	<b>233</b>	<b>63</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>32</b>
Mont.	159	75	4	7	6	—	—	—	1
Idaho	96	92	—	8	3	—	—	—	5
Wyo.	72	23	1	5	2	—	—	—	1
Colo.	355	195	48	54	11	—	1	—	7
N. Mex.	1,080	235	13	27	5	—	—	—	5
Ariz.	1,980	485	51	72	15	2	—	3	12
Utah	610	110	7	28	8	—	—	—	—
Nev.	313	291	10	32	13	1	—	—	1
<b>Pacific</b>	<b>8,883</b>	<b>4,106</b>	<b>696</b>	<b>840</b>	<b>67</b>	<b>107</b>	<b>53</b>	<b>26</b>	<b>382</b>
Wash.	1,379	617	36	141	18	9	—	1	33
Oreg.	829	420	14	59	—	—	—	—	20
Calif.	6,408	2,940	623	623	47	79	3	25	328
Alaska	190	58	7	9	—	—	—	—	2
Hawaii	77	71	15	8	2	19	50	—	9
Guam	13	6	9	—	—	1	—	—	3
P.R.	157	1	28	25	—	8	5	—	—
V.I.	1	7	—	—	—	1	—	2	—
American Samoa	251	—	—	—	—	41	21	—	—
C.N.M.I.	81	5	—	—	—	31	—	—	—

\*Civilian cases only.

\*Provisional data.

**NOTIFIABLE DISEASES—Reported cases, by geographic division and area, United States, 1990 (continued)**

Area	Measles		Meningo- coccal infections	Mumps	Pertussis	Plague	Poli- myelitis Paralytic	Pertussis
	Indigenous	Imported						
<b>United States</b>	<b>26,528</b>	<b>1,259*</b>	<b>2,451</b>	<b>5,292</b>	<b>4,570</b>	<b>2</b>	<b>9†</b>	<b>113</b>
<b>New England</b>	<b>275</b>	<b>26</b>	<b>191</b>	<b>54</b>	<b>502</b>	<b>—</b>	<b>—</b>	<b>6</b>
Maine	29	2	17	—	19	—	—	2
N.H.	1	8	13	11	68	—	—	1
Vt.	—	1	13	2	8	—	—	—
Mass.	24	9	89	14	366	—	—	1
R.I.	31	1	14	10	10	—	—	—
Conn.	191	5	45	17	31	—	—	2
<b>Mid. Atlantic</b>	<b>2,467</b>	<b>242</b>	<b>412</b>	<b>474</b>	<b>619</b>	<b>—</b>	<b>3</b>	<b>9</b>
N.Y. (excl. NYC)	398	183	138	161	342	—	2	4
N.Y.C.	1,075	33	79	65	21	—	—	1
N.J.	451	17	66	104	37	—	—	3
Pa.	543	9	129	144	210	—	1	1
<b>E.N. Central</b>	<b>3,383</b>	<b>144</b>	<b>307</b>	<b>860</b>	<b>1,057</b>	<b>—</b>	<b>—</b>	<b>17</b>
Ohio	547	2	94	91	246	—	—	9
Ind.	406	1	21	27	147	—	—	2
Ill.	1,345	11	91	205	354	—	—	—
Mich.	348	125	69	177	87	—	—	6
Wis.	737	5	32	60	223	—	—	—
<b>W.N. Central</b>	<b>933</b>	<b>17</b>	<b>83</b>	<b>191</b>	<b>235</b>	<b>—</b>	<b>—</b>	<b>10</b>
Minn.	456	6	20	16	54	—	—	1
Iowa	25	1	1	22	20	—	—	3
Mo.	102	1	31	62	118	—	—	—
N. Dak.	—	—	1	—	5	—	—	—
S. Dak.	15	8	3	—	2	—	—	2
Nebr.	102	1	5	—	11	—	—	3
Kans.	233	—	22	91	27	—	—	1
<b>S. Atlantic</b>	<b>965</b>	<b>381</b>	<b>454</b>	<b>2,050</b>	<b>382</b>	<b>1</b>	<b>1</b>	<b>31</b>
Del.	7	2	4	8	12	—	—	2
Md.	195	18	46	1,141	97	1	—	2
D.C.	19	5	25	53	15	—	—	—
Va.	84	2	58	108	25	—	—	2
W. Va.	6	—	20	44	32	—	—	—
N.C.	20	19	65	325	78	—	—	20
S.C.	4	—	29	76	14	—	—	—
Ga.	101	261	72	98	50	—	—	—
Fla.	529	74	135	197	59	—	1	5
<b>E.S. Central</b>	<b>160</b>	<b>4</b>	<b>144</b>	<b>103</b>	<b>147</b>	<b>—</b>	<b>—</b>	<b>6</b>
Ky.	44	1	42	—	21	—	—	—
Tenn.	74	—	52	56	53	—	—	2
Ala.	23	2	38	19	65	—	—	3
Miss.	27	1	12	28	8	—	—	1
<b>W.S. Central</b>	<b>4,545</b>	<b>102</b>	<b>183</b>	<b>847</b>	<b>307</b>	<b>—</b>	<b>2</b>	<b>2</b>
Ark.	22	32	26	140	38	—	—	—
La.	10	—	42	118	37	—	—	—
Okla.	174	—	22	119	74	—	—	—
Tex.	4,339	70	93	470	158	—	2	2
<b>Mountain</b>	<b>883</b>	<b>86</b>	<b>81</b>	<b>344</b>	<b>385</b>	<b>1</b>	<b>1</b>	<b>13</b>
Mont.	—	1	9	1	36	—	—	—
Idaho	16	10	9	137	59	—	—	1
Wyo.	10	5	1	3	1	—	—	—
Colo.	92	46	27	28	131	1	—	6
N. Mex.	82	9	9	NN	18	—	—	1
Ariz.	299	12	9	143	77	—	1	2
Utah	147	—	7	14	40	—	—	2
Nev.	237	3	10	18	3	—	—	1
<b>Pacific</b>	<b>12,907</b>	<b>257</b>	<b>596</b>	<b>680</b>	<b>965</b>	<b>—</b>	<b>1</b>	<b>19</b>
Wash.	251	101	80	66	227	—	1	5
Orag.	168	44	73	NN	123	—	—	3
Calif.	12,378	101	426	571	467	—	—	8
Alaska	78	2	12	6	18	—	—	—
Hawaii	32	9	5	26	130	—	—	3
Guam	—	1	4	7	—	—	—	—
P.R.	1,805	—	15	8	26	—	—	—
V.I.	23	4	—	7	—	—	—	—
American Samoa	498 <sup>‡</sup>	—	—	26	—	—	—	—
C.N.M.I.	35 <sup>§</sup>	—	—	8	—	—	—	—

\*For measles only, imported includes both out-of-state and international importations.

†Suspected paralytic poliomyelitis cases, confirmation of these cases is pending review by an external panel.

‡Provisional data.

**NOTIFIABLE DISEASES—Reported cases, by geographic division and area, United States, 1990 (continued)**

Area	Rabies		Rubella				Syphilis			
	Animal	Human	Rheumatic Fever acute	Rubella	Cong.- syndrome	Salmonel- losis	Shigel- losis	Primary & Secondary	Cong. (<1 yr.)	All Stages
<b>United States</b>	<b>4,823</b>	<b>1</b>	<b>108</b>	<b>1,125</b>	<b>11</b>	<b>48,605</b>	<b>27,078</b>	<b>50,223*</b>	<b>2,899*</b>	<b>134,255*</b>
<b>New England</b>	<b>17</b>	<b>—</b>	<b>2</b>	<b>9</b>	<b>—</b>	<b>4,002</b>	<b>762</b>	<b>1,616</b>	<b>42</b>	<b>3,793</b>
Maine	1	—	1	2	—	244	13	9	—	21
N.H.	3	—	—	1	—	272	65	32	—	40
Vt.	—	—	—	—	—	175	14	2	—	2
Mass.	10	—	NN	2	—	2,079	409	666	13	1,703
R.I.	—	—	1	1	—	316	34	33	2	168
Conn.	3	—	—	3	—	916	227	874	27	1,859
<b>Mid. Atlantic</b>	<b>1,322</b>	<b>—</b>	<b>3</b>	<b>27</b>	<b>—</b>	<b>8,479</b>	<b>2,928</b>	<b>9,752</b>	<b>1,363</b>	<b>31,366</b>
N.Y.(excl.NYC)	242	—	NN	22	—	2,022	1,052	1,044	91	3,097
N.Y.C.	—	—	3	4	—	1,696	674	4,273	1,005	16,202
N.J.	469	—	NN	—	—	1,870	331	1,694	71	4,380
Pa.	611	—	NN	1	—	2,891	871	2,741	196	7,687
<b>E.N. Central</b>	<b>175</b>	<b>—</b>	<b>39</b>	<b>166</b>	<b>—</b>	<b>7,780</b>	<b>2,851</b>	<b>3,913</b>	<b>284</b>	<b>8,844</b>
Ohio	10	—	17	131	—	1,316	628	569	17	1,104
Ind.	14	—	—	1	—	748	351	133	—	366
Ill.	30	—	5	22	—	3,231	1,126	1,722	183	4,127
Mich.	51	—	9	9	—	1,310	466	1,086	75	2,625
Wis.	70	—	8	3	—	1,175	280	403	9	622
<b>W.N. Central</b>	<b>889</b>	<b>—</b>	<b>13</b>	<b>44</b>	<b>—</b>	<b>2,592</b>	<b>864</b>	<b>537</b>	<b>12</b>	<b>1,188</b>
Minn.	236	—	5	35	—	771	118	96	—	212
Iowa	215	—	3	4	—	313	51	75	—	148
Mo.	30	—	3	3	—	723	284	273	10	601
N. Dak.	93	—	—	1	—	112	147	1	—	6
S. Dak.	208	—	1	—	—	87	81	3	—	7
Nebr.	5	—	NN	1	—	231	48	17	—	37
Kans.	45	—	1	—	—	295	135	72	2	177
<b>S. Atlantic</b>	<b>1,282</b>	<b>—</b>	<b>1</b>	<b>24</b>	<b>1</b>	<b>9,811</b>	<b>4,646</b>	<b>15,337</b>	<b>510</b>	<b>38,067</b>
Del.	44	—	NN	—	—	291	147	190	5	395
Md.	406	—	NN	2	—	1,256	238	1,153	82	3,177
D.C.	8	—	NN	1	—	213	103	1,139	29	2,965
Va.	292	—	NN	1	—	1,491	158	880	25	2,133
W. Va.	40	—	1	—	—	173	22	20	—	246
N.C.	9	—	NN	1	1	1,265	667	1,731	35	3,391
S.C.	130	—	NN	1	—	727	360	1,064	24	2,178
Ga.	202	—	NN	1	—	1,633	721	3,994	84	9,210
Fla.	95	—	NN	17	—	2,562	1,630	5,166	226	14,992
<b>S.E. Central</b>	<b>257</b>	<b>—</b>	<b>—</b>	<b>3</b>	<b>—</b>	<b>2,695</b>	<b>1,145</b>	<b>4,751</b>	<b>77</b>	<b>10,299</b>
Ky.	98	—	—	1	—	883	95	117	3	287
Tenn.	56	—	NN	2	—	721	237	2,061	44	4,345
Ala.	90	—	NN	—	—	728	566	1,426	4	3,134
Miss.	3	—	—	—	—	883	267	1,147	26	2,484
<b>W.S. Central</b>	<b>458</b>	<b>1</b>	<b>1</b>	<b>103</b>	<b>2</b>	<b>4,064</b>	<b>4,456</b>	<b>8,700</b>	<b>336</b>	<b>20,356</b>
Ark.	39	—	1	3	—	430	92	627	8	1,299
La.	25	—	—	—	—	822	303	2,656	101	5,278
Okl.	130	—	NN	1	—	437	511	252	17	613
Tex.	264	1	NN	99	2	2,315	3,550	5,165	210	13,166
<b>Mountain</b>	<b>217</b>	<b>—</b>	<b>23</b>	<b>116</b>	<b>—</b>	<b>2,381</b>	<b>3,801</b>	<b>862</b>	<b>38</b>	<b>2,218</b>
Mont.	47	—	NN	15	—	112	45	3	—	10
Idaho	7	—	NN	80	—	94	26	11	—	27
Wyo.	96	—	8	1	—	52	10	2	—	12
Colo.	23	—	2	4	—	632	369	95	1	200
N. Mex.	14	—	—	—	—	446	948	51	—	222
Ariz.	36	—	NN	32	—	706	1,998	626	32	1,291
Utah	16	—	13	4	—	150	355	8	—	468
Nev.	18	—	—	10	—	189	40	126	5	408
<b>Pacific</b>	<b>392</b>	<b>—</b>	<b>26</b>	<b>693</b>	<b>8</b>	<b>7,281</b>	<b>6,225</b>	<b>4,795</b>	<b>237</b>	<b>17,553</b>
Wash.	4	—	NN	6	—	634	279	354	14	632
Oreg.	1	—	NN	77	—	369	178	140	1	322
Calif.	361	—	25	542	8	5,725	5,703	4,216	222	16,340
Alaska	26	—	—	—	—	107	11	15	—	26
Hawaii	—	—	1	8	—	456	54	10	—	33
<b>Guam</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>105</b>	<b>130</b>	<b>—</b>	<b>—</b>	<b>14</b>
P.R.	55	—	—	—	—	589	79	477	10	2,008
V.I.	—	—	1	—	—	11	8	5	—	36
American Samoa	—	—	11	—	—	81	31	—	—	—
C.N.M.I.	—	—	41	—	—	201	181	—	—	—

\*Civilian cases only.

Provisional data.

**NOTIFIABLE DISEASES—Reported cases, by geographic division and area, United States, 1990 (continued)**

Area	Tetanus	Toxic-Shock Syndrome	Trich- inosis	Tubercu- losis	Tularemia	Typhoid Fever	Typhus fever		Varicella (Chicken- pox)
							Murine	RMSF	
United States	64	322	129	25,701	152	582	50	651	173,099
New England	3	28	4	744	5	32	—	18	11,531
Maine	1	7	2	34	1	—	—	—	283
N.H.	—	1	—	20	—	—	—	1	2,299
Vt.	—	2	—	13	—	—	—	—	NN
Mass.	1	14	2	438	4	30	—	15	5,897
R.I.	—	1	—	75	—	—	—	—	2,834
Conn.	1	1	—	164	—	2	—	2	218*
Mid. Atlantic	4	43	6	5,913	1	139	3	20	4,738
N.Y.(excl.NYC)	—	15	4	656	1	22	3	9	NA
N.Y.C.	—	7	—	3,520	—	84	—	1	4,738
N.J.	3	—	1	970	—	26	—	5	NN
Pa.	1	21	1	767	—	7	—	5	NN
E.N. Central	13	69	2	2,389	9	46	2	46	78,924
Ohio	1	19	—	378	2	6	1	28	9,711
Ind.	3	2	—	269	1	2	—	6	NN
Ill.	4	17	1	1,119	6	29	1	5	31,189
Mich.	4	31	—	506	—	8	—	7	38,024
Wis.	1	—	1	97	—	1	—	—	NA
W.N. Central	1	41	91	631	48	6	—	59	29,899
Minn.	1	6	6	114	—	—	—	—	NN
Iowa	—	10	79	72	—	1	—	2	5,924
Mo.	—	12	—	312	33	4	—	36	10,591
N. Dak.	—	1	—	18	—	—	—	—	642
S. Dak.	—	—	—	14	4	—	—	2	367
Nebr.	—	4	—	23	4	—	—	1	122
Kans.	—	8	6	78	7	1	—	18	3,253
S. Atlantic	18	19	18	4,835	5	84	1	291	9,840
Del.	1	1	—	36	—	—	—	2	28
Md.	—	1	—	384	—	33	—	19	NN
D.C.	—	1	—	183	—	1	1	3	95
Va.	2	3	16	410	2	6	—	25	2,677
W. Va.	—	—	—	87	—	1	—	1	6,365
N.C.	1	4	2	666	2	4	—	178	NN
S.C.	1	2	—	455	1	2	—	43	675
Ga.	5	2	—	800	—	4	—	18	NN
Fla.	6	5	—	1,832	—	33	—	2	NN
E.S. Central	7	14	3	1,807	8	4	1	99	5,352
Ky.	1	4	—	363	2	1	—	11	2,989
Tenn.	3	8	2	598	6	1	1	63	2,363
Ala.	2	2	1	494	—	2	—	11	NN
Miss.	1	—	—	382	—	—	—	14	NN
W.S. Central	9	29	—	3,174	48	32	38	162	26,884
Ark.	—	1	—	323	35	—	—	23	28
La.	2	1	—	386	—	1	—	3	NN
Okla.	—	9	—	243	10	3	—	70	NN
Tex.	7	9	—	2,242	3	28	36	6	26,636
Mountain	2	33	3	643	21	23	—	12	12,240
Mont.	—	—	—	26	—	—	—	5	196
Idaho	—	2	—	14	—	—	—	1	NN
Wyo.	1	2	1	5	6	—	—	1	40
Colo.	—	7	1	74	6	—	—	—	NN
N. Mex.	1	5	—	113	5	—	—	1	NN
Ariz.	—	10	—	275	—	20	—	1	11,771
Utah	—	6	—	51	4	—	—	3	214
Nev.	—	1	1	85	—	3	—	—	19
Pacific	9	57	2	5,585	7	186	7	4	2,911
Wash.	1	7	—	284	3	22	—	2	NN
Oreg.	1	3	—	148	2	5	—	1	NN
Calif.	7	46	1	4,889	—	149	3	1	904
Alaska	—	—	1	68	2	—	—	—	NN
Hawaii	—	1	—	196	—	10	4	—	2,007
Guam	1	—	—	59	—	—	—	—	483
P.R.	4	—	—	285	—	3	—	—	5,851
V.I.	1	—	—	6	—	—	—	—	671
American Samoa	—	—	—	NA	—	1	—	—	113
C.N.M.I.	—	—	—	28	—	2	—	—	212†

\*Ages 16†.

†Provisional data.





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